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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JUERGEN DANNENMAIER,
MANFRED PIRNER, and
HERMANN JOSEPH GOEHL

Appeal 2009-003549
Application 10/708,774
Technology Center 1700

Decided: March 12, 2010

Before ADRIENE LEPIANE HANLON, TERRY J. OWENS, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

A. STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from an Examiner's decision rejecting claims 1-6, 10-12, 14-16, 19-24, 36, 38, and 39.¹ We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM-IN-PART.

Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A filter device comprising a housing, said housing enclosing at least two fluid filtration compartments, each filtration compartment comprising at least one filter membrane having a first surface and a second surface, said first surface of each filter membrane being in fluid communication with at least one fluid flow port, said second surface being in fluid communication with at least one fluid flow port, adjacent filtration compartments being separated from each other by an internal wall, *said housing comprising at least two longitudinally extending shell portions, one of said longitudinally extending shell portions of the housing describing less than one half of the perimeter of said housing.*

Br., Claims Appendix (emphasis added).²

The following Examiner's rejections are before us on appeal:

(1) Claims 1, 4, 5, 16, and 19-24 are rejected under 35 U.S.C. § 102(b) as anticipated by Gross.³

(2) Claims 6 and 10-12 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Gross.

¹ Claims 7-9, 13, 17, 18, 25-35, 37, and 40-43 are also pending but have been withdrawn from consideration. Final Office Action dated January 18, 2007, at 1.

² Appeal Brief dated September 10, 2007.

³ US 5,882,516 to Gross et al. issued March 16, 1999.

(3) Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as unpatentable over Gross.

(4) Claims 14, 15, 36, 38, and 39 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Gross and Pope.⁴

B. ISSUES

The Appellants separately address the patentability of claims 1, 2, 6, 10-12, and 14. Thus, the issues on appeal are:

(1) Have the Appellants identified reversible error in the Examiner's finding that Gross describes a housing comprising at least two longitudinally extending shell portions wherein one of the shell portions describes less than one half of the perimeter of the housing, as recited in claim 1?

(2) Have the Appellants identified reversible error in the Examiner's conclusion that Gross renders obvious a shell portion describing less than one third of the perimeter of the housing, as recited in claim 2?

(3) Have the Appellants identified reversible error in the Examiner's determination that Gross anticipates or renders obvious a housing comprising two shell portions "joined together along at least two longitudinal seams," as recited in claim 6?

(4) Have the Appellants identified reversible error in the Examiner's determination that Gross anticipates or renders obvious the subject matter recited in claims 10-12?

(5) Have the Appellants identified reversible error in the Examiner's conclusion that the combination of Gross and Pope renders obvious a housing comprising two shell portions wherein one shell portion

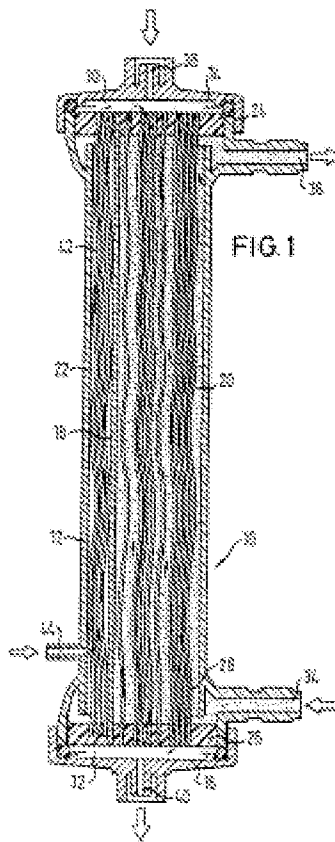
⁴ US 2003/0102264 A1 to Pope et al. published June 5, 2003.

has a different refractive index than the other shell portion, as recited in claim 14?

C. FINDINGS OF FACT

1. Gross

Gross Figure 1, reproduced below, illustrates a dialyzer. Gross 2:49-51.



Gross Figure 1 depicts a dialyzer.

Gross discloses that the dialyzer:

comprises a cylindrical and an elongated housing 12, which is sealed at the ends by covers 14 and 16. The elongated housing is subdivided by a separating wall 18 into two modules 20 and 22. Modules 20 and 22 are both delimited, on the one hand, by the separating wall and the outer wall of housing 12 and, on the

other hand, by sealing compounds 24 and 26, which seal off housing 12 at the extremity.

Gross 2:61-3:2.

2. Pope

Pope discloses a filter device 100. In one embodiment of the invention, the filter device is a dialyzer. Pope, para. [0006].

Pope discloses:

The Filter Device 100 of the present invention utilizes molded parts, including Housing 102 and Flange Caps 106, made with a polypropylene homopolymer that possess comparable general characteristics to the polycarbonate used in the molded components of the Fresenius Hemoflow series of dialyzers, but is considerably less expensive. The choice of materials for the dialyzer are heavily dependent upon the manufacturing processes employed. Though the optical property of the polypropylene homopolymer is significantly more “hazy” compared to polycarbonate, the blood and dialysate compartments are still readily visible to technicians.

Pope, para. [0020].

D. ANALYSIS

1. Issue (1)

The Appellants argue that Gross does not show or suggest “at least two longitudinally extending shell portions, one of said longitudinally extending shell portions of the housing describing less than one half of the perimeter of said housing,” as recited in claim 1. Br. 10.

Referring to Gross Figure 1, the Examiner found:

[T]he internal wall (18) divides the shell of the cartridge in to [sic] two compartments. The compartment on the left, identified as (22) is distinctly smaller than the compartment on the right, identified as (20). If one were to draw a cross-section of the picture above, one could clearly see that the perimeter of

the shell portion (22) would be smaller than the perimeter of the shell portion (20).

Ans. 11.⁵

The Examiner's position is reasonable based on the record before us. That is, the teachings of Gross establish that the wall 18 divides the housing 12 into two portions, i.e., a first portion which surrounds a portion of the module 20 and a second, smaller portion which surrounds a portion of the module 22. Gross 2:61-3:2, Fig. 1.

The Appellants also argue that "[i]n Gross, the fiber filters would be inserted from an end of the tubular housing, not laid into one of the elongated longitudinally extending shell portions as would be possible in the claimed invention." Br. 10.

It is of no moment that the method used to insert the fiber filters in Gross may be different than the Appellants' method. The issue on appeal is whether Gross describes the filter device recited in claim 1. Significantly, the Appellants have failed to direct us to any language in claim 1 that distinguishes the claimed filter device from the dialyzer disclosed in Gross. *See In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998) ("the name of the game is the claim").

2. Issue (3)

Claim 6 depends from claim 1 and recites that "said longitudinally extending shell portions are joined together along at least two longitudinal seams." Br., Claims Appendix.

The Appellants argue that Gross does not show any kind of seams. App. Br. 11. The Examiner appears to recognize as much. Ans. 5

⁵ Examiner's Answer dated October 11, 2007.

(indicating that Gross does not disclose how the shell portions are joined together to form the housing). Nonetheless, the Examiner directs our attention to the Figures of Gross and explains that “the partition wall (18) has to be joined to the tubular wall 12 of the shell, which requires at least two longitudinal joints along the length of the shell.” Ans. 5.

Gross does not describe how the wall 18 is joined to the housing 12. However, to the extent that there may be a joint between the wall 18 and the housing 12, claim 6 requires the *shell portions* of the housing to be “joined together along at least two longitudinal seams.” The Examiner has failed to explain why a joint between the wall 18 and the housing 12 satisfies this limitation in claim 6.

The Examiner also argues that the subject matter of claim 6 would have been obvious “because welded tubes are well known.” Ans. 11. However, the Examiner has failed to explain why one of ordinary skill in the art would have used a welded tube having at least two seams in the dialyzer of Gross, especially where, as pointed out by the Appellants, fluid integrity is critical. *See* Br. 11.

For the reasons set forth above, we are constrained to reverse the Examiner’s rejection of claim 6.

3. Issue (4)

Claim 10 depends from claim 1 and recites:

said internal wall comprises a first part and a second part, said first part being attached to a first longitudinally extending shell portion and said second part being attached to a second longitudinally extending shell portion, said first part having a free edge and said second part having a free edge, said free edges being configured to join to each other.

Claim 11 depends from claim 10, and claim 12 depends from claim 11. Br., Claims Appendix.

The Appellants argue that Gross does not disclose or render obvious the subject matter of claims 10-12. Br. 11-13.

Significantly, the Examiner has failed to direct us to any portion of Gross which describes the subject matter of claims 10-12. For example, the Examiner has failed to identify the free edges of the first and second parts of the internal wall 18 in Gross and explain why these free edges are “configured to join to each other” as recited in claim 10.⁶

Likewise, the Examiner has failed to explain why the teachings of Gross render obvious the subject matter of claims 10-12.

For these reasons, we are constrained to reverse the Examiner’s rejection of claims 10-12.

4. Issue (2)

Claim 2 depends from claim 1 and recites that “one of said longitudinally extending shell portions describes less than one third of the perimeter of said housing.” Br., Claims Appendix.

The Examiner explains:

[T]he size of the shell would depend on the size of the filter to be accommodated, which would depend on the quantity of fluid to be processed, and one of ordinary skill in the art could optimize this size for the intended purpose. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch and Slaney,

⁶ We recognize that the phrase “configured to join to each other” does not require that the free edges actually be joined. *See* Ans. 12. Nonetheless, the edges must have some cooperating structure that renders them capable of being joined to each other.

205 USPQ 215 (CCPA 1980); *In re Antonie*, 559 F.2d 618, 195
USPQ 6 (CCPA 1977)

Ans. 6.

The Appellants argue that it is impossible to derive the limitations of claim 2 by “optimization” because:

these limitations refer to the separate shell portions, not to the modules or chambers that hold the filters. In the preferred embodiment, for instance, (e.g., Fig. 4 or Fig. 5), each shell portion forms part of both modules or chambers. This is not an express requirement of these claims, but it demonstrates that the examiner’s argument that the size of the filter would lead one to the claims by mere optimization is simply wrong.

Br. 14.

Significantly, the Appellants’ argument is based on limitations admittedly not recited in claim 2. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (arguments based on limitations not appearing in the claims fail at the outset). That is, claim 2 does not require each shell portion to form a portion of both filtration compartments 2 and 3, as illustrated in the Appellants’ Figures 4 and 5. Rather, claim 2 encompasses a housing comprising two shell portions, as illustrated in Gross Figure 1, where each shell portion surrounds a separate filtration compartment. Thus, on this record, we agree with the Examiner that it would have been within the skill of the ordinary artisan to adjust the sizes of the shell portions in Gross based on the optimum sizes of the filtration compartments or modules (20, 22).

5. Issue (5)

Claim 14 depends from claim 1 and recites:

wherein one of said longitudinally extending shell portions has a first refractive index and another of said longitudinally extending shell portions has a second refractive index, said first

refractive index being different from said second refractive index.^{7]}

Br., Claims Appendix.

Claim 15 depends from claim 14 and recites that one of the shell portions is comprised of polycarbonate and the other shell portion is comprised of polypropylene.⁸ Br., Claims Appendix.

The Examiner contends:

Pope teaches that both polypropylene and polycarbonate can be used for making the dialyzer shell, with polycarbonate being better for visibility, whereas polypropylene is cheaper (see paragraph 20). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Pope in the teaching of Gross to have either, or a combination, of polypropylene and polycarbonate. One would use polycarbonate over polypropylene for the parts that require transparency, such as the part of the shell where blood flows through the membrane, so that any blood leak is clearly visible, and polypropylene for others to reduce the cost.

Ans. 7.

The Appellants argue that the prior art does not teach a housing comprising two shell portions having different optical properties or refractive indices. Br. 14-15.

⁷ Similarly, claim 36 recites a filter device comprising a housing having at least two longitudinal extending shell portions wherein one of the shell portions has a different optical property than the other shell portion. Claim 38 depends from claim 36 and recites that the optical property is a refractive index. Br., Claims Appendix.

⁸ Claim 39 depends from claim 38 and also recites that one of the shell portions is comprised of polycarbonate and the other shell portion is comprised of polypropylene. Br., Claims Appendix.

Indeed, Pope does not disclose a dialyzer shell comprising a combination of materials. Pope discloses that the housing is molded from a single homopolymer, i.e., polypropylene, and indicates that polycarbonate has been used in the molded components of other dialyzers. Pope, para. [0020]. Thus, it is unclear on this record why the teachings of Pope would have suggested fabricating the shell portions of Gross from a combination of materials. At best, Pope teaches forming the housing from one of polypropylene *or* polycarbonate.

We recognize that economic factors may motivate one of ordinary skill in the art to make improvements in the art. However, the Examiner has failed to explain why the cost of fabricating the housing of Gross from two different materials would be less than the cost of fabricating the housing from a single material, such as polycarbonate. Pope does not provide any guidance on the matter. Pope merely suggests that forming a housing from one material (i.e., polypropylene) is cheaper than forming a housing from another material (i.e., polycarbonate). Pope, para. [0020].

For the reasons set forth above, we are constrained to reverse the Examiner's rejection of claims 14, 15, 36, 38, and 39.

E. DECISION

The rejection of claims 1, 4, 5, 16, and 19-24 under 35 U.S.C. § 102(b) as anticipated by Gross is affirmed.

The rejection of claims 6 and 10-12 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Gross is reversed.

The rejection of claims 2 and 3 under 35 U.S.C. § 103(a) as unpatentable over Gross is affirmed.

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The rejection of claims 14, 15, 36, 38, and 39 under 35 U.S.C. § 103(a) as unpatentable over the combination of Gross and Pope is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

PL Initial:
sld

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